43

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶:

A61K 31/505, 31/535, C07D 403/04,
413/14

(11) International Publication Number: WO 99/32121

(43) International Publication Date: 1 July 1999 (01.07.99)

(21) International Application Number: PCT/US98/26862

(22) International Filing Date: 17 December 1998 (17.12.98)

60/068,393 19 December 1997 (19.12.97) US

(71) Applicant (for all designated States except US): SMITHKLINE

(71) Applicant (for all designated States except US): SMITHKLINE BEECHAM CORPORATION [US/US]; One Franklin Plaza, Philadelphia, PA 19103 (US).

(72) Inventors; and

(30) Priority Data:

- (75) Inventors/Applicants (for US only): GALLAGHER, Timothy, Francis [US/US]; 255 Manor Road, Harleysville, PA 19438 (US). BOEHM, Jeffrey, Charles [US/US]; 24 Anthony Road, King of Prussia, PA 19406 (US). ADAMS, Jerry, Leroy [US/US]; 611 Forest Road, Wayne, PA 19087 (US).
- (74) Agents: DINNER, Dara, L. et al.; SmithKline Beecham Corporation, Corporate Intellectual Property, UW2220, 709 Swedeland Road, P.O. Box 1539, King of Prussia, PA 19406-0939 (US).

(81) Designated States: AL, AU, BA, BB, BG, BR, CA, CN, CZ, EE, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

(54) Title: COMPOUNDS OF HETEROARYL SUBSTITUTED IMIDAZOLE, THEIR PHARMACEUTICAL COMPOSITIONS AND USES

(57) Abstract

Compounds of 1,4,5-substituted imidazole wherein one of the substituents can be a substituted pyrimidine, pyridazine or 1,2,4-triazine. These compounds and their pharmaceutical compositions are used in treating cytokine mediated diseases by inhibiting the production of IL-1 (interleukin-1), IL-8 (interleukin-8), and TNF (tumor necrosis factor).

Atty. Docket No. 3015/6/US Serial No. 10/021,780 Anantanarayan et al. Reference 43 of 77